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IoT-Based Smart Keychain

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Abstract: *The IoT-based Smart Keychain using Raspberry Pi is an innovative device designed to enhance the security and convenience of managing keys and other valuable items. This smart keychain integrates the power of the Internet of Things (IoT) and the versatility of a Raspberry Pi, creating a comprehensive solution for key and item tracking.*

Key features of this smart keychain include a compact design, wireless connectivity, and a user-friendly mobile application. Each key or item attached to the keychain is equipped with a unique RFID or Bluetooth Low Energy (BLE) tag. The Raspberry Pi serves as the central hub, wirelessly communicating with these tags to monitor their location and status.

The mobile application allows users to track and manage their keys and belongings with ease. It provides real-time location information, alerts for misplaced items, and a history log to track usage patterns. Users can customize notifications, such as proximity alerts and reminders for forgotten keys.

1) Additionally, the system incorporates a secure cloud database to store tracking data and supports data encryption for data privacy. The IoT architecture enables remote monitoring and control, even when users are away from their keychain. This keychain can be particularly useful for homeowners, businesses, and individuals seeking an efficient and reliable way to keep track of their keys and important items.

In conclusion, the IoT-based Smart Keychain using Raspberry Pi is a cost-effective, IoT-enabled solution that simplifies key and item management while enhancing security and convenience.

Keywords: Device finder, GPS tracker, SPO2 sensor, buzzer, web application

I. INTRODUCTION

In the modern era of IOT (Internet of Things), innovative solutions are continually emerging to simplify our daily lives and enhance security. The IoT-based smart key-chain is one such example, offering a convenient and feature-rich way to manage your keys while incorporating an emergency switch for added safety. The smart keychain is equipped with GPS technology, enabling users to locate their keys usinga smartphone app, even when they are misplaced. With the Blynk app, users can remotely lock or unlock the keychain, providing security and control over their be- longings. The keychain includes an emergency switch, which, when activated, sendsan immediate alert to designated contacts . This feature is especially valuable in emergency situations, such as when you feel threatened or require assistance.

II. OBJECTIVE

- Develop a compact and user-friendly smart keychain device.
- Integrate IoT capabilities using Raspberry Pi for real-time tracking and monitoring.
- Create a mobile application or web interface for users to interact with andcontrol the smart keychain.
- Enable the smart keychain to notify users when they are in proximity to thelost item.
- Implement a secure data transmission and storage mechanism to protect userdata and privacy.

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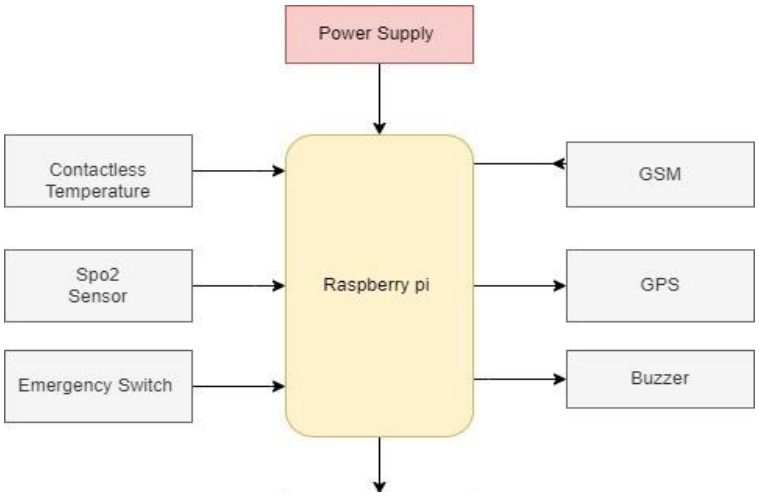
IIII. BLOCK DIAGRAM



IV. CONCLUSION

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V. HARDWARE REQUIREMENT

- Hardware : intel core
- Processor : Intel i5 Processor
- RAM : 8GB
- Hard-Disk : 40 GB

VI. SOFTWARE REQUIREMENT

- Operating System: Windows 10
- IDE : Spyder
- Coding Language : Python

VII. ACKNOWLEDGMENT

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VIII. CONCLUSION

This paper describes the development of an IoT-based key finder utilising a Raspberry Pi, a buzzer, and a battery. This method was designed in the shape of a key chain that may be attached to the keys. The system has created a page

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dedicated to finding the missing keys using the blynk app. The designed IoT-based keychain includes a buzzer that emits a beep sound. The project can be improved in a variety of ways. In the smart keychain finder, a GPS module may have been employed. The user might have easily tracked down the misplaced keys with the help of our key- chain finder. A message system might have been set up to notify the user when they found their missing keys.

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